

29. (New) An optical disc apparatus comprising:
a light source;
an objective lens for focusing light ray flux emitted from the
light source on an optical recording medium;
a quarter-wave plate located between the light source and the
optical recording medium;
a flux separating element configured to separate light rays
reflected on the optical recording medium from an optical
axis of incident light rays, the flux separating element
including a uniaxial crystal with a discontinuous surface
disposed in an optical path between the light source and
the objective lens; and
a light-receiving element positioned adjacent the light source
and at a front side thereof for detecting a signal from the
reflection light rays.

30. (New) The optical disc apparatus of claim 29, further
comprising a collimator lens located between the flux separating
element and the optical recording medium.

31. (New) The optical disc apparatus of claim 29, wherein
the light source is at a different height from that of the light-
receiving element.

32. (New) The optical disc apparatus of claim 29, wherein

the flux separating element comprises a prism including the uniaxial crystal disposed in the optical path between the light source and the objective lens.

33. (New) The optical disc apparatus of claim 29, wherein the optical disc apparatus is an optical pickup.

34. (New) An optical disc system comprising the optical disc apparatus as defined in claim 29.

35. (New) The optical disc apparatus of claim 29, wherein the light source is a semiconductor laser.

36. (New) The optical disc apparatus of claim 29, wherein an incident plain surface of the flux separating element is not perpendicular to the optical axis.

37. (New) The optical disc apparatus of claim 29, wherein the light source and the light-receiving element are unitarily constructed by combining both of them into one.

38. (New) The optical disc apparatus of claim 29, wherein the flux separating element is employed as a window member of the light source.

39. (New) The optical disc apparatus of claim 29, wherein the light source, the light-receiving element, the flux separating element, the quarter-wave plate and the objective lens are mounted unitarily to form a unitary optical pickup portion.

40. (New) The optical disc apparatus of claim 39, wherein the unitary optical pickup portion is accommodated in an actuator movable portion which can be moved both in a tracking direction and in a focusing direction.

41. (New) The optical pickup apparatus of claim 29, wherein the light source, the light-receiving element, the flux separating element, the quarter-wave plate and the objective lens are accommodated in an actuator movable portion which can be moved both in a tracking direction and in a focusing direction.

42. (New) An optical pickup apparatus comprising:
a light source;
an objective lens for focusing light ray flux emitted from the
light source on an optical recording medium;
a quarter-wave plate located between the light source and the
optical recording medium;
a flux separating element configured to separate light rays
reflected on the optical recording medium from an optical
axis of incident light rays, the flux separating element


being disposed in a divergent optical path between the light source and the quarter-wave plate; and a light-receiving element positioned adjacent the light source and at a front side thereof for detecting a signal from the reflection light rays, wherein the light source and the light-receiving element are formed in a single stem.

43. (New) The optical pickup apparatus of claim 42, wherein two pieces of prism consisting of same sort of uniaxial crystal respectively having optical axes intersecting perpendicularly to each other are employed as the flux separating element, such that when a refractive index for ordinary light rays of the prism n_o is larger than a refractive index for extraordinary light rays n_e , an incident angle of the ordinary light rays transmitted through the first prism to the second prism is δ , and a counterclockwise angle from the optical axis of the ordinary light rays is in a plus (+) direction when the value of δ becomes larger than zero, and such that when n_o is larger than n_e , an incident angle of the extraordinary light rays transmitted through the first prism to the second prism is δ , and a counterclockwise angle from the optical axis of the extraordinary light rays is in a plus (+) direction when the value of δ becomes smaller than zero ($\delta < 0$).

44. (New) The optical pickup apparatus of claim 42,

wherein a plain plate made of birefringent material is employed as the flux separating element.

45. (New) An optical pickup for use with a recording medium reflecting light flux incident thereon, comprising:
a light source emitting light flux along an emitting direction;
a focusing optical element;
a flux separating optical element having a first side that faces the light source and through which light flux emitted from the light source along the emitting direction enters, and a second side through which the light flux exits the flux separating optical element, the flux separating element including a uniaxial crystal with a discontinuous surface disposed in an optical path between the light source and the focusing optical element;
a quarter-wave optical element through which the light flux from light source passes after having passed through the flux separating optical element, the focusing optical element focusing onto a recording medium the light flux from the light source after having passed through the flux separating and the quarter-wave optical elements;
a reflected light flux detector facing the first side of the flux separating optical element,
wherein the recording medium reflects the light flux focused thereon to thereby produce a reflected light flux,

 the reflected light flux passes through the focusing and the quarter-wave optical elements and enters the flux separating optical element through the second side thereof along an optical path that substantially coincides with a path of the light flux from the light source after exiting the second side and in traveling to the recording medium through the quarter-wave and focusing optical elements, and the reflected light flux detector receives, along a detecting direction, from the flux separating optical element reflected light flux that has entered through the second side.

46. (New) The optical pickup of claim 45, wherein the emitting and detecting directions are at an oblique angle to each other.

47. (New) The optical pickup of claim 45, wherein the light source and detector are spaced from each other in a direction transverse to both the emitting and the detecting directions.

48. (New) The optical pickup of claim 45, wherein the flux separating optical element comprises a birefringent material.

49. (New) A method of directing incident light onto a

reflecting recording medium and detecting reflected light therefrom, comprising:

emitting light flux from a light source along an emitting direction;

causing the light flux emitted from the light source to pass through a flux separating optical element including a uniaxial crystal with a discontinuous surface disposed in an optical path between the light source and a focusing optical element, the light flux entering the flux separating optical element through a first side and exiting through a second side;

causing the light flux from the light source that has exited the flux separating optical element through the second side thereof to pass through a quarter-wave optical element;

causing the light flux from the light source that has passed through the quarter-wave optical element to pass through the focusing optical element and be focused onto a recording medium that reflects the light flux focused thereon to thereby produce a reflected light flux,

wherein the reflected light flux passes through the focusing and the quarter-wave optical elements and enters the flux separating optical element through the second side thereof along an optical path that substantially coincides with a path of the light flux from the light source after exiting the second side and in traveling to the recording medium

through the quarter-wave and focusing optical elements, and
the reflected light flux exits the flux separating optical
element through the first side thereof and travels along a
detecting direction to a light flux detecting element.

50. (New) The method of claim 49, wherein the emitting and
detecting directions are at an oblique angle to each other.

51. (New) The method of claim 49, wherein the light source
and detector are spaced from each other in a direction transverse
to both the emitting and the detecting directions.

52. (New) The method of claim 49, wherein causing the
light flux from the light source to pass through a flux
separating optical element includes passing the light flux
through a birefringent material.
